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John H.

WORKPLAN FOR THE DELINEATION
OF PCB CONTAMINATION IN THE SOIL
AT DICO OIL COMPANY

PREPARED FOR:

DICO OIL COMPANY
1845 EAST WILLOW STREET
SIGNAL HILL, CA 90806

PREPARED BY:

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OCTOBER 1990

October 11, 1990

Mr. John J. Kearns, Regional Administrator
DEPARTMENT OF HEALTH SERVICES
TOXIC SUBSTANCES CONTROL PROGRAM, REGION 4
245 West Broadway Suite 350
Long Beach, Ca. 90802

Attn: Ms. Muinos

Subject: Revised Workplan for Delineation of Suspected
Soil Contamination at Dico Oil Company Located at
1845 East Willow Street, Signal Hill

Dear Ms. Muinos,

In accordance with your requests noted in the communication dated July 12, 1990, JRJ Associates is pleased to present this revised workplan and site safety plan for the proposed delineation of suspected soil contamination at Dico Oil Company's facility located at 1845 Willow Street in Signal Hill.

The workplan has been formulated with the assumption that the delineation is for suspected polychlorinated biphenyls (PCB) contamination of the soil. The Department of Health Services (DHS) has alleged that soil contaminated with excessive levels of PCBs were disposed of at the west side of the on-site driveway and added to the berm surrounding on-site tanks. This workplan will only be implemented following the Department's review and approval.

SITE HISTORY

The primary business activity of Dico Oil Company is the recovery, reclamation and resale of used petroleum oil products. The reclamation of used oil is achieved through various blending processes, and includes the transfer and storage of petroleum oil on-site. A tank farm consisting of several above-ground storage tanks is used to store the oil. Refer to Figure 1 for a drawing of the facility including the tank farm located in the southeast section.

The tank farm previously included two underground tanks located in the northern end. In 1986, one of these tanks, indicated on Figure 1, was discovered to be leaking. It was then taken out of service and removed from the ground. Surrounding soil from the site was excavated and stored in a pile on the west side of the truck pad. The soil was stored at this location while Dico awaited direction from the California Regional Water Quality Control Board (CRWQCB) concerning remediation action.

In November 1989, Dico received permission from the CRWQCB to place the soil on the spill containment berm surrounding the tank farm.

In December 1989, the DHS conducted an inspection at the site during which samples were collected from the remaining soil stored on the westside of the truck pad. Analysis of the samples revealed significant levels of PCB.

OBJECTIVES

The specific objectives of the proposed work plan are as follows:

- * Assessment of the vertical and lateral extent of PCB contamination through collection and analysis of soil samples.
- * Evaluation of remedial action alternatives to mitigate any on-site soil contamination discovered.

FIELD INVESTIGATION

The field investigation will consist of hand augering ten borings, B1 through B10, at the approximate locations shown in Figure 1. Each boring will be made to a depth of approximately one foot below ground level with the exception of B3 and B4. Borings B3 and B4 will be made to depths of one foot below the level of backfilled soil. Soil samples will be collected at depths of 0-6", or in the case of B3 and B4, 6" below the level of backfilled soil. All samples will be analyzed immediately. In the event that a sample yields a positive result, the corresponding boring will be extended to five feet deeper than the original. A sample will be obtained from a depth of five feet. Details of the augering and sampling program are elaborated in the Quality Assurance/Quality Control Plan section of this document.

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The rationale used for determining the location and depth of borings is based on the location of suspected PCB contaminated soil within the site. Borings B3 and B4 are located at the previous location of the underground tanks which are thought to be the original sources of contamination on the site. Borings B6, B7 and B10 are located in the area where the soil excavated from around the tanks was stored and where PCB was detected on-site. Borings B2, B5, B8 and B9 are located on the tank farm containment berm, another area which received soil excavated from under the tanks. Boring B1 is located in an area which is remote from suspected sources of contamination. Samples from B1 will be used to establish background concentrations.

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With the noted exceptions of B3 and B4, samples for analysis will be taken from near the surface because that is where contamination would be expected to be located. The soil in question was placed on the surface when it was moved on the site. PCB is not water soluble, so it would not have been leached to greater depths by rainwater.

LABORATORY ANALYSIS

The soil samples collected from the ten borings will be transferred using the chain of custody procedure to a State certified laboratory, SCS Analytical Laboratory located in Long Beach, Ca. The samples will be analyzed for chemical constituents with the intent to delineate the vertical and lateral extent of PCB contaminated soil. The QA/QC plan section provides further details concerning laboratory analysis.

QUALITY ASSURANCE/QUALITY CONTROL PLAN

The QC plan for this project refers to accepted activities designed for the purpose of data collection, and which are intended to ensure reliability and consistency for the site conditions. The QA plan refers to the management of actions essential to maintain accuracy, precision, completeness and representativeness of the data that results from the project.

The specific QA/QC plan developed for this project includes procedures for augering, sampling, field analysis, decontamination, documentation of activities, and peer review. The overall objective is to maintain data quality so that generated data are suitable for their intended use. Designated QA/QC personnel will report directly to the Principal and have the authority to stop activities if the QA/QC procedures are not implemented in general accordance with the QA/QC plan.

A) Field Program

Detailed procedures for the field program, including augering and soil sampling are described as below:

A.1) Borings

Ten vertical borings will be hand augered to a depth of approximately one foot below grade, or, for B3 and B4, one foot below the level of backfilled soil. During the augering operations, a summary of the soil conditions will be recorded on a log for each boring. A field report will also be prepared each day, summarizing the work performed and describing any unusual conditions.

Following the completion of any borings, the borings will be backfilled approximately to ground level. The procedures and the materials that will be used for the backfill of these borings are presented below.

The detachable hand auger will be washed in between borings as described below. Soil sampling equipments will be washed between the sample collection locations using procedures described in the Field Procedure section.

Hand augering will be conducted under the supervision of a California registered civil engineer from JRJ Associates.

A.2) Hand Augering Procedures

1. Borings will be hand augered with a nominal four inch outside diameter detachable auger bit.
2. Locations which may be relatively free of contamination will be augered first.
3. The augers will be cleaned at the site between each boring. The run-off water will be collected during the steam cleaning operation.
4. Following augering and sampling, the borings will be back-filled with a sand-cement grout.
5. Soil removed from the borings will be left on-site in 55 gallon DOT drums pending laboratory analysis of soil samples.

A.3) Soil Description and Sampling

1. Soil descriptions, sample type and depth, and related drilling information will be recorded on a boring log.
2. Soil samples will be collected at 0 - 6".

A.4) Soil Samplers and Sampling Procedures

1. A detachable soil sampler with a brass sleeve will be used to collect samples for chemical laboratory analysis.
2. The samplers used for collection of soil samples will be cleaned between sample intervals using a bristle brush and trisodium phosphate solution (TSP). This will be followed by two tap water rinses and a deionized water rinse. Samplers will be dried with paper towels or by air prior to reuse.

3. Soil samples for analysis will be collected in two inch long brass sleeves inside the sampler. Prior to use, the sample tubes will be rinsed and dried using the procedures in item A.3.2.
4. Following retrieval of the sampler, the brass sample tube will be removed. The ends will be trimmed of excess soil, covered with Teflon and capped with plastic caps. The plastic caps will then be taped with duct tape to prevent loss of the cap and soil sample. Each sample will be labeled with the sample number, date and project number.

A.5) Sample Handling

1. The sample tubes collected for chemical analyses will be placed in ziploc bags and stored in an ice chest with blue ice serving to provide a cooled environment for sample preservation.
2. The samples will be delivered to the laboratory within 48 hours of collection. Sample handling, transport and delivery to the laboratory will be documented using chain of custody procedures including chain of custody forms.

A.6) Backfill Materials

1. The borings will be backfilled to the ground surface with cement, sand, bentonite and water.

A.7) Decontamination Procedures

1. The detachable augers will be thoroughly cleaned between borings. All washing will occur in a pan in which the water from the cleaning will collect. The detachable augers will be cleaned inside and outside.
2. Water collected from washing will be collected in 55 gallon drums. Drums will be stored on-site and the contents analyzed to determine the appropriate method of disposal.
3. The auger driver and all samplers will be washed between sampling intervals in a TSP solution wash, two tap water rinses, and a final deionized water rinse.
4. The sample sleeves will be cleaned prior to sample collection in TSP solution, two tap water rinses, and a final deionized water rinse.

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B) Laboratory Analysis Program

B.1) Certified Laboratory

The soil chemical analysis will be performed at a State certified laboratory, (SCS Analytical Laboratory, Long Beach, California). The soil samples will be analyzed for PCBs in accordance with EPA method 8080.

B.2) Quality Control

Samples collected for this study will be treated as individual batches in the laboratory. Routine laboratory QA/QC procedures will be performed including daily calibration of instruments.

C) Data Analysis and Reporting

A peer review system will be used to review any data or written products prior to reporting the information. JRJ Associates will be the project reviewer. All originators' and reviewers' identities will be documented, either on the same data form or by the QA/QC manager. Specifically, the following procedures are expected to be performed:

- * Technical review of written products, meeting scope requirements, internal referencing (figures, etc.) and external referencing (referenced sources, etc.)
- * All samples sent for analysis will be documented with chain of custody forms.
- * All laboratory QA/QC data will be reviewed.
- * Audits of all field procedures will be conducted at least once by the QA/QC manager or designee.

HEALTH AND SAFETY PLAN:

This Health and Safety Plan is intended to prescribe minimum procedural and equipment requirements for worker protection. Operating conditions may be expected to change as the work proceeds and the plan will be modified appropriately as required. All concerned personnel, site visitors and subcontractor personnel are subject to provisions of this directive.

Emergency Medical Treatment:

In the event of an employee injury or illness requiring emergency medical care beyond on-site capabilities, the following resources will be utilized as appropriate:

- a. For ambulance, fire or police

PHONE: 911

- B. Local emergency hospital (24 hours)

Pacific Hospital
2776 Pacific Avenue
Long Beach, Ca.

or

Memorial Medical Center
2801 Atlantic Avenue
Long Beach, Ca.

(213) 595-1911

(213) 595-2311

Field Operations Work Areas:

The site will be controlled to reduce accidents and the possibility of exposure to any contaminants present and their transport by personnel or equipment from this site.

In order to prevent unnecessary accidents and promote efficient, effective operations, work areas will be established. Within these areas, prescribed operations will occur utilizing the appropriate personal protective equipment.

The possibility of exposure or translocation of contaminants and the potential for accidents shall be reduced or eliminated in a number of ways, including:

1. Setting up security or physical barriers to exclude unnecessary personnel from the general area.
2. Minimizing the number of personnel and equipment on-site consistent with effective operations.
3. Establishing work areas within the site.
4. Conducting operations in a manner to reduce the potential for accidents.
5. Minimizing the airborne dispersion of dust and/or contaminants.
6. Establishing control points to regulate access to work areas and/or on-site plant traffic.